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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,139	09/29/2005	Michael Bartsch	12810-00135-US1	3996
30678 7590 02/12/2008 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20036				
EXAMINER				
SHIAO, REI TSANG				
ART UNIT		PAPER NUMBER		
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02/12/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/551,139

Applicant(s)

BARTSCH ET AL.

Examiner

Rei-tsang Shiao, Ph.D.

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date 01/09/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This application claims benefit of the foreign application:
GERMANY 10314761.6 with a filing date 03/31/2003.
2. Claims 1-20 are pending in the application.

Information Disclosure Statement

3. Applicant's Information Disclosure Statement, filed on January 09, 2006 has been considered. Please refer to Applicant's copy of the 1449 submitted herein.

Responses to Election/Restriction

4. Applicant's election with traverse of election of Group I claims 1-7 and 19-20, in part, in the reply filed on December 07, 2007 is acknowledged. The traversal is on the grounds that the Office has provided insufficient reasons in support of the belief, the Office has not met the burden placed upon it, and accordingly, the restriction is believed to be improper and should be withdrawn, and PCT Article 27(1) is cited. This is found not persuasive, and the reasons are given *infra*.

Claims 1-20 are pending in the application. The scope of the invention of the elected subject matter is as follows.

Claims 1-7 and 19-20, in part, drawn to products (i.e., a system or catalyst), wherein the complexes Ni(0) (i.e., zero-valent nickel complex) represents compounds of formula (I) thereof.

The claims 1-20 herein lack unity of invention under PCT rule 13.1 and

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13.2 since the compounds defined in the claims lack a significant structural element qualifying as the special technical feature that defines a contribution over the prior art, see Lu et al. US 6,380,421. Lu et al. discloses similar catalyst compounds comprising a Lewis acid, metal nickel, and phosphites as the instant invention. Accordingly, unity of invention is considered to be lacking and restriction of the invention in accordance with the rules of unity of invention is considered to be proper. Furthermore, even if unity of invention under 37 CFR 1.475(a) is not lacking, which it is lacking, under 37 CFR 1.475(b) a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following combinations:

- (1) A product and a process specially adapted for the manufacture of said product', or
- (2) A product and a process of use of said product; or
- (3) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or
- (4) A process and an apparatus or means specifically designed for carrying out the said process; or
- (5) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process.

And, according to 37 CFR 1.475(c)

if an application contains claims to more or less than one of the combinations of categories of invention set forth in paragraph (b), unity of invention might not be present.

However, it is noted that unity of invention is considered lacking under 37 CFR 1.475(a) and (b). Therefore, since the claims are drawn to more than a product, and according to 37 CFR 1.475 (e)

the determination whether a group of inventions is so linked as to form a single general inventive concept shall be made without regard to whether the inventions are claimed in separate claims or as alternatives within a single claim.

The claims lack unity of invention and should be limited to only a product, or a process for the preparation, or a use of the said product. In the instant case, Groups I-V are drawn to various products and processes of making do not contain a common technical feature or structure of claims 1-20, and do not define a contribution over the prior art, i.e., catalyst compounds of Lu et al. US 6,380,421. Moreover, the examiner must perform a commercial database search on the subject matter of each group in addition to a paper search, which is quite burdensome to the examiner. Claims 1-7 and 19-20, in part, embraced in above elected subject matter, are prosecuted in the case. Claims 1-7 and 19-20, in part, not embraced in above elected subject matter, and claims 8-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

The requirement is still deemed proper.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

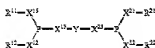
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.1 Claims 1-7 and 19-20 are rejected under 35 U.S.C. 102(a) or 102(e) as being anticipated by Rosier et al. US 7,084,293 with a filing date 01/30/2003. Rosier et al. is 102 (e) reference.

Applicants claim products (i.e., a system or catalyst) comprises (a) Ni(0), (b) a ligand of complexes Ni(0) (i.e., formula (I) $P(X^1R^1)(X^2R^2)(X^3R^3)$ or a formula



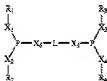
) or mixture thereof, (c) Lewis acid (i.e., $ZnCl_2$) and (d)

compounds of formula MR_n (i.e., $Ti(O-i-Pr)_4$), see claim 1.

Rosier et al. disclose a catalyst system comprising metallic element (i.e., Ni(0) or



Ni(COD)₂), organophosphate compounds of formula (I) or (II), i.e.,



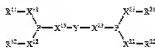
or , Lewis acid (i.e., zinc chloride, titanium isopropylate), see

columns 2-3, 6, and 8. Therefore Rosier et al. catalyst system clearly anticipate the instant invention. Dependent claims 2-7 and 19-20 are also rejected along with claim 1 under 35 U.S.C. 102(a) or 102(e).

5.2 Claims 1-7 and 19-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Lu et al. US 6,380,421.

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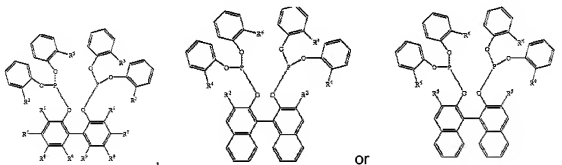
Applicants claim products (i.e., a system or catalyst) comprises (a) Ni(0), (b) a ligand of complexes Ni(0) (i.e., formula (I) $P(X^1R^1)(X^2R^2)(X^3R^3)$ or a formula



) or mixture thereof, (c) Lewis acid (i.e., $ZnCl_2$) and (d)

compounds of formula MR_n (i.e., $Ti(O-i-Pr)_4$), see claim 1.

Lu et al. disclose a catalyst composition comprising zero-valent nickel (i.e., Ni(0) or Ni(COD)₂), phosphite compounds of formula (I), (II) or (III), i.e.,



Lewis acid (i.e., organic metallic compounds, organic aluminum or titanium compound), see columns 5-8 and 13-15. Therefore Lu et al. catalyst system clearly anticipate the instant invention. Dependent claims 2-7 and 19-20 are also rejected along with claim 1 under 35 U.S.C. 102(a)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

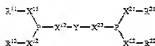
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6.1 Claims 1-7 and 19-20 are rejected under 35 U.S.C. 103(a) as being obvious over Rosier et al. US 7,084,293. Rosier et al. is 102 (e) reference.

Applicants claim products (i.e., a system or catalyst) comprises (a) Ni(0), (b) a ligand of complexes Ni(0) (i.e., formula (I) $P(X^1R^1)(X^2R^2)(X^3R^3)$ or a formula

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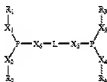
) or mixture thereof, (c) Lewis acid, and (d) compounds of formula MR_n, see claim 1.

Determination of the scope and content of the prior art (MPEP §2141.01)

Rosier et al. disclose a catalyst system comprising metallic element (i.e., Ni(0) or



Ni(COD)₂, organophosphate compounds of formula (I) or (II), i.e.,



or , Lewis acid (i.e., zinc chloride, titanium isopropylate), see columns 2-3, 6, and 8.

Determination of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant claims and Rosier et al. is that the instant catalyst comprises compounds of formula MR_n (i.e., Ti(O-*i*-Pr)₄ or Lewis acid), while Rosier et al. represents Lewis acid. Rosier et al. catalyst overlaps with the scope of the instant invention.

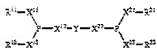
Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)

One having ordinary skill in the art would find the instant claims 1-7 and 19-20 prima facie obvious **because** one would be motivated to employ the catalyst system of Rosier et al. to obtain the instant catalyst comprises (a) Ni(0), (b) a ligand of complexes Ni(0) or mixture thereof, (c) Lewis acid and (d) compounds of formula MR_n. Dependents claims 2-7 and 19-20 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed catalyst derives from known Rosier et al. catalyst would possess similar activities (i.e., agents as a catalyst for chemical reaction) to that which is claimed in the reference.

6.2 Claims 1-7 and 19-20 are rejected under 35 U.S.C. 103(a) as being obvious over Lu et al. US 6,380,421.

Applicants claim products (i.e., a system or catalyst) comprises (a) Ni(0), (b) a ligand of complexes Ni(0) (i.e., formula (I) $P(X^1R^1)(X^2R^2)(X^3R^3)$ or a formula

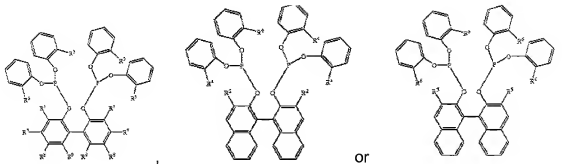


) or mixture thereof, (c) Lewis acid, and (d) compounds of formula MR_n, see claim 1.

Determination of the scope and content of the prior art (MPEP §2141.01)

Lu et al. disclose a catalyst composition comprising zero-valent nickel (i.e., Ni(0) or Ni(COD)₂), phosphite compounds of formula (I), (II) or (III), i.e.,

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Lewis acid (i.e., organic metallic compounds, organic aluminum or titanium compound), see columns 5-8 and 13-15.

Determination of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant claims and Lu et al. is that the instant catalyst comprises compounds of formula MR_n (i.e., $Ti(O-i-Pr)_4$ or Lewis acid), while Lu et al. represents a broadly Lewis acid (i.e., organic metallic compounds, organic aluminum or titanium compound). Lu et al. catalyst overlaps with the scope of the instant invention.

Finding of prima facie obviousness-rational and motivation (MPEP §2142-2143)

One having ordinary skill in the art would find the instant claims 1-7 and 19-20 prima facie obvious **because** one would be motivated to employ the catalyst system of Lu et al. to obtain the instant catalyst comprises (a) $Ni(0)$, (b) a ligand of complexes $Ni(0)$ or mixture thereof, (c) Lewis acid and (d) compounds of formula MR_n . Dependents claims 2-7 and 19-20 are also rejected along with claim 1 under 35 U.S.C. 103(a).

The motivation to obtain the claimed catalyst derives from known Lu et al. catalyst would possess similar activities (i.e., agents as a catalyst for chemical reaction) to that which is claimed in the reference.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 and 19-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 8 of

Haderlein et al. co-pending application No. 10/577,681 or over claims 8 of Haderlein et al. co-pending application No. 10/576,679. Although the conflicting claims are not identical, they are not patentably distinct from each other and reasons are as follows.

Applicants claim products (i.e., a system or catalyst) comprises Ni(0), a ligand of complexes Ni(0), Lewis acid and compounds of formula MR_n.

Haderlein et al. '681 claim products (i.e., a mixture) comprising a nick(0) phosphorus ligand complex. It is noted that Haderlein et al. mixtutre of claim 8 is drawn to process-by-product claim.

Haderlein et al. '679 claim products (i.e., a mixture) comprising a nick(0) phosphorus ligand complex. It is noted that Haderlein et al. mixtutre of claim 8 is drawn to process-by-product claim.

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Also see M.P.E.P. 2113.

The difference between the instant claims and Haderlein et al. '681 or '679 is that Haderlein et al. '681 or '679 is silent on the instant Lewis acid and compounds of formula MR_n, and their mixture products are independently drawn to process-by-product claim. Haderlein et al. '681 or '679 mixture or products inherently overlap the instant invention.

One having ordinary skill in the art would find the instant claims 1-7 and 19-20 prima facie obvious **because** one would be motivated to employ the products (i.e., a mixture) of Haderlein et al. '681 or '679 to obtain the instant products (i.e., a system or

catalyst) comprises Ni(0), a ligand of complexes Ni(0), Lewis acid and compounds of formula MRn. Dependent claims 2-7 and 19-20 are also rejected along with claim 1 under the obviousness-type double patenting.

The motivation to obtain the claimed catalyst derives from known Haderlein et al. mixture would possess similar activity (agents as catalyst) to that which is claimed in the reference.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

8. Claims 1-7 and 19-20 are objected to as containing non-elected subject matter, i.e., the complexes Ni(0) is other than compound of formula (I), etc. It is suggested that applicants amend the claims to the scope of the elected subject matter as defined on pages 2-3 *supra*.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rei-tsang Shiao whose telephone number is (571) 272-0707. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

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the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rei-tsang Shiao, Ph.D./

Rei-tsang Shiao, Ph.D.
Primary Patent Examiner
Art Unit 1626

February 07, 2008

